

CLAIMS

[1] A device control apparatus that controls a plurality of devices, said device control apparatus comprising:

- a specification association table obtainment unit operable to
- 5 obtain a specification association table in which a device and a specification of the device are associated with each other;
- a use situation association table obtainment unit operable to obtain a use situation association table in which a device and a use situation of the device are associated with each other;
- 10 an application obtainment unit operable to obtain an application program in which a device to be controlled is described by an abstract name;
- a condition definition table obtainment unit operable to obtain a condition definition table in which conditions that should be
- 15 satisfied by the device with the abstract name are defined, the conditions being a specification-related condition and a use situation-related condition;
- a specification-conforming device identification unit operable to identify, by referring to the condition definition table, the
- 20 specification-related condition that should be satisfied by the device with the abstract name described in the application program, and to identify, by referring to the specification association table, the device with the specification which conforms to the identified condition;
- 25 a use situation-conforming device identification unit operable to identify, by referring to the condition definition table, the use situation-related condition that should be satisfied by the device with the abstract name described in the application program, and to identify, by referring to the use situation association table, the
- 30 device with the use situation which conforms to the identified condition; and

a device control unit operable to control, based on the

application program, the device identified by said specification-conforming device identification unit and which is also identified by said use situation-conforming device identification unit.

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[2] The device control apparatus according to Claim 1,
wherein the abstract name is a generic name of a device that
can carry out a specific role.

10 [3] The device control apparatus according to Claim 1,
wherein, a set of the device with the abstract name and a
command to the device is described in the application program.

15 [4] The device control apparatus according to Claim 1, further
comprising
a change unit operable to change details in the condition
definition table.

20 [5] The device control apparatus according to Claim 1,
wherein the specification of the device includes a functional
specification of the device, and a formal specification of the device.

25 [6] The device control apparatus according to Claim 1,
wherein the use situation of the device includes a location at
which the device is present, and time at which the device is present.

30 [7] The device control apparatus according to Claim 1,
wherein the use situation of the device includes a location at
which the device is used by a user, and time at which the device is
used by the user.

[8] The device control apparatus according to Claim 1,

wherein the use situation of the device includes any one of a past record of the use situation, a current use situation, and a prediction for the use situation.

5 [9] The device control apparatus according to Claim 1,
wherein a plurality of conditions that should be satisfied by
the device are defined, for a single device, in the condition definition
table, the conditions being specification-related conditions and use
situation-related conditions.

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[10] The device control apparatus according to Claim 9,
wherein a priority relation among the plurality of conditions is
defined in the condition definition table.

15 [11] The device control apparatus according to Claim 1,
wherein a plurality of users share any of a part and a whole of
the condition definition table.

20 [12] A device control method for controlling a plurality of devices,
said device control method comprising:

a specification association table obtainment step of obtaining
a specification association table in which a device and a specification
of the device are associated with each other;

25 a use situation association table obtainment step of obtaining
a use situation association table in which a device and a use
situation of the device are associated with each other;

an application obtainment step of obtaining an application
program in which a device to be controlled is described by an
abstract name;

30 a condition definition table obtainment step of obtaining a
condition definition table in which conditions that should be satisfied
by the device with the abstract name are defined, the conditions

being a specification-related condition and a use situation-related condition;

a specification-conforming device identification step of identifying, by referring to the condition definition table, the specification-related condition that should be satisfied by the device with the abstract name described in the application program, and of identifying, by referring to the specification association table, the device with the specification which conforms to the identified condition;

10 a use situation-conforming device identification step of identifying, by referring to the condition definition table, the use situation-related condition that should be satisfied by the device with the abstract name described in the application program, and of identifying, by referring to the use situation association table, the device with the use situation which conforms to the identified condition; and

15 a device control step of controlling, based on the application program, the device identified in said specification-conforming device identification step and which is also identified in said use situation-conforming device identification step.

[13] A program for controlling a plurality of devices, said program causing a computer to execute:

20 a specification association table obtainment step of obtaining a specification association table in which a device and a specification of the device are associated with each other;

25 a use situation association table obtainment step of obtaining a use situation association table in which a device and a use situation of the device are associated with each other;

30 an application obtainment step of obtaining an application program in which a device to be controlled is described by an abstract name;

a condition definition table obtainment step of obtaining a condition definition table in which conditions that should be satisfied by the device with the abstract name are defined, the conditions being a specification-related condition and a use situation-related
5 condition;

a specification-conforming device identification step of identifying, by referring to the condition definition table, the specification-related condition that should be satisfied by the device with the abstract name described in the application program, and of
10 identifying, by referring to the specification association table, the device with the specification which conforms to the identified condition;

a use situation-conforming device identification step of identifying, by referring to the condition definition table, the use situation-related condition that should be satisfied by the device with the abstract name described in the application program, and of identifying, by referring to the use situation association table, the device with the use situation which conforms to the identified condition; and

20 a device control step of controlling, based on the application program, the device identified in said specification-conforming device identification step and which is also identified in said use situation-conforming device identification step.

25 [14] A computer-readable recording medium on which a program for controlling a plurality of devices is recorded, the program causing a computer to execute:

an application obtainment step of obtaining an application program in which a device to be controlled is described by an
30 abstract name;

a condition definition table obtainment step of obtaining a condition definition table in which conditions that should be satisfied

by the device with the abstract name are defined, the conditions being a specification-related condition and a use situation-related condition;

5 a specification-conforming device identification step of identifying a device which conforms to the specification-related condition that should be satisfied by the device with the abstract name described in the application program;

10 a use situation-conforming device identification step of identifying a device which conforms to the use situation-related condition that should be satisfied by the device with the abstract name described in the application program;

15 a device control step of controlling, based on the application program, the device identified in said specification-conforming device identification step and which is also identified in said use situation-conforming device identification step.